

IN THE CLAIMS:

Please amend Claims 7, 8, 12 and 13, as follows.

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Previously Presented) A diffractive optical element according to Claim 13, wherein the diffractive surface and the alignment mark are adapted to transmit light rays of the first and second wavelengths.

5. (Previously Presented) A diffractive optical element according to Claim 13, wherein the diffractive surface and the alignment mark are adapted to reflect light rays of the first and second wavelengths.

6. (Previously Amended) A diffractive optical element according to Claim 13, wherein the diffractive surface comprises binary optics, and wherein the diffractive surface and the alignment mark are formed in accordance with a lithographic process.

7. (Currently Amended) A diffractive optical element according to Claim 13, further comprising a substrate on which the diffractive surface and the alignment mark are formed, ~~and wherein said predetermined member is a metal ring for holding the~~ substrate.

8. (Currently Amended) A diffractive optical element according to Claim 13, ~~wherein said predetermined member is a metal ring; wherein the alignment mark is placed at a center of the diffractive surface, and wherein the alignment mark is disposed at a central position of an outside circumference of the metal ring.~~

9. (Previously Presented) A diffractive optical element according to Claim 8, wherein the alignment mark and the central position of the metal ring are aligned with each other, on the basis of detection of the alignment mark by use of the light of the second wavelength.

10. (Previously Presented) A projection optical system including a diffractive optical element as recited in Claim 13.

11. (Original) A projection exposure apparatus for projecting a pattern onto a substrate by use of a projection optical system as recited in Claim 10.

12. (Currently Amended) A device manufacturing method, comprising the steps of:

exposing a substrate with a device pattern by use of light having a wavelength λ and by use of, ~~projected from~~ an exposure apparatus having a diffractive optical element ~~having a design wavelength λ~~ , the diffractive optical element including (1) (i) a diffractive surface for diffracting predetermined light corresponding to the ~~design~~ wavelength λ , and (2) (ii) an alignment mark formed in a portion of the diffractive surface, wherein, ~~having a shape such that~~, with regard to the predetermined light, a phase difference corresponding to a multiple, by an integer, of the ~~design~~ wavelength λ is produced between (i) a light ray, of the predetermined light, as transmitted through or reflected by the alignment mark and (ii) a light ray, of the predetermined light, as transmitted through or reflected by a portion adjacent to the alignment mark, and that, with regard to second light of a second wavelength λ' different from the ~~design~~ wavelength λ , no phase difference corresponding to a multiple, by an integer, of the second wavelength λ' is produced between (a) a light ray, of the second light, as transmitted through or reflected by the alignment mark and (b) a light ray, of the second light, as transmitted through or reflected by a portion adjacent to the alignment mark, whereby a position of the alignment mark is detected using the light of the second wavelength; and

developing the exposed substrate.

13. (Currently Amended) A diffractive optical element to be used with
~~having~~ a design wavelength λ , comprising:
a diffractive surface for diffracting predetermined light of a wavelength λ ;
and
an alignment mark formed in a portion of the diffractive surface, wherein,
~~having a shape such that,~~ with regard to the predetermined light, a phase difference
corresponding to a multiple, by an integer, of the design wavelength λ is produced between
(i) a light ray, of the predetermined light, as transmitted through or reflected by the
alignment mark and (ii) a light ray, of the predetermined light, as transmitted through or
reflected by a portion adjacent to the alignment mark, and that, with regard to second light
of a second wavelength λ' different from the design wavelength λ , no phase difference
corresponding to a multiple, by an integer, of the second wavelength λ' is produced
between (a) a light ray, of the second light, as transmitted through or reflected by the
alignment mark and (b) a light ray, of the second light, as transmitted through or reflected
by a portion adjacent to the alignment mark, whereby a position of the alignment mark is
detected using the light of the second wavelength.

14. (Canceled)

15. (Previously Presented) A diffractive optical element according to
Claim 13, wherein the alignment mark is disposed substantially at the center of the
diffractive surface.

16. (Previously Presented) A diffractive optical element according to Claim 13, wherein the alignment mark is defined by a recess formed on the diffractive surface.

17. (Previously Presented) A diffractive optical element according to Claim 13, wherein the alignment mark is defined by a protrusion formed on the diffractive surface.